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In the United States Patent and Trademark Office

Appellants: Jian Qin et al. Docket No.: 12,975
Serial No.: 08/759,108 Group: 1713
Filed: December 2, 1996 Examiner: M. Reddick
For: ABSORENT COMPOSITION Date: August 17, 2001

Appeal Brief Transmittal Letter

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U.S. PATENT AND TRADEMARK OFFICE

ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. 1.192, transmitted herewith in triplicate is an Appeal Brief pursuant to the Notice of Appeal which was mailed on January 4, 2001.

Please charge the \$310.00 fee, pursuant to 37 C.F.R. 1.17(c), which is due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875. This Appeal Brief Transmittal Letter is submitted in duplicate.

Respectfully submitted,

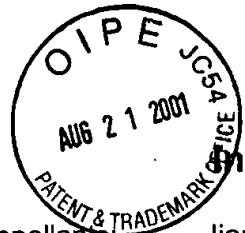
JIAN QIN ET AL..

By: Sebastian C. Pugliese III
Sebastian C. Pugliese III
Registration No.: 42,091

CERTIFICATE OF MAILING

I, Lanette Burton, hereby certify that on August 17, 2001 this document is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

By: Lanette Burton
Lanette Burton



In the United States Patent and Trademark Office

Appellants: Jian Qin et al. Docket No.: 12,975
Serial No.: 08/759,108 Group: 1713
Filed: 12/2/96 Examiner: M. Reddick
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Brief on Appeal to the Board of Patent Appeals and Interferences

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ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

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Sir:

Pursuant to 37 C.F.R. 1.192 Appellants respectfully submit this Brief in support of their Appeal of Examiner Reddick's **Final Rejection** of claims 1, 2, 4-16, and 33 which was mailed on 4 August 2000.

On 4 January 2001, Appellants, pursuant to 37 C.F.R. 1.191 mailed a timely Notice of Appeal. Appellants are concurrently filing a Petition for Revival of an Application for Patent Abandoned Unintentionally under 37 C.F.R. § 1.137(b)..

In accordance with 37 C.F.R. 1.192(a) this Appeal Brief is filed in triplicate.

Real Party in Interest

The present Application has been assigned to the Kimberly-Clark Worldwide, Inc.

Related Appeals and Interferences

None.

Status of the Claims

Claims 1, 2, 4-16, and 33 remain in the application with claims 1, 2, 4-16, and 33 being finally rejected.

Status of Amendments Filed Subsequent to Final Rejection

None.

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Summary of the Invention

The present inventions are generally directed to absorbent compositions having the ability to slowly

absorb a large quantity of liquid—a property that is counterintuitive in a world where manufacturers typically desire absorbent compositions that *rapidly* absorb liquid. The compositions comprise an acidic, water-swellable, water-insoluble polymer and a basic material, with the polymer, material, or composition having recited properties. (Withdrawn claims, not relevant to the present appeal, are directed to compositions comprising a basic, water-swellable, water-insoluble polymer and an acidic material.)

The Issues Presented

- (1) Whether claims 1, 2, 4-16, and 33, which are directed to compositions have recited absorbency properties reflecting a relatively slow absorption rate, are anticipated by WO 96/17681 ("Palumbo"), which discloses combinations of anionic and cationic superabsorbents designed to alleviate the "salt-poisoning" effect in order to *improve* superabsorbent performance in the presence of an electrolyte.
- (2) Whether claims 1, 2, 4-16, and 33, which are directed to compositions have recited absorbency properties reflecting a relatively slow absorption rate, are obvious over WO 96/17681 ("Palumbo"), which discloses combinations of anionic and cationic superabsorbents designed to alleviate the "salt-poisoning" effect in order to *improve* superabsorbent performance in the presence of an electrolyte.

Grouping of the Claims

Claims 1, 2, 4-16, and 33 stand or fall as a group.

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Argument

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Issues Presented: Number 1-Anticipation.

Claims 1, 2, 4-16, and 33 recite values for Time to Reach 60 Percent of Free Swell Capacity and Time to Reach 60 Percent of Absorbency Under Load Capacity. The cited publication makes no mention of these values, or other values relating to a relatively slow *rate* of absorbency. If the Examiner is arguing that these recited properties are inherent in the combinations disclosed in the publication, the Examiner must show more:

Inherency . . . may not be established by probabilities or possibilities. . . . The mere fact that a certain thing may result from a given set of circumstances is not sufficient.¹

¹ *In re Oelrich*, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981) (*quoting Hansgirg v. Kemner*, 102 F.2d 212, 214, 40 U.S.P.Q. 665, 667 (C.C.P.A. 1939)).

The Examiner has not fulfilled her obligation. The Examiner notes that Palumbo discusses combinations of a cationic superabsorbent having basic groups and an anionic superabsorbent having free-acid groups. But she provides no additional analysis as to why our recited properties would inherently be present in Palumbo's combinations. Accordingly, she has not met the requirements for asserting inherency as outlined in *In re Olerich*.

Our application provides a detailed analysis of various factors influencing the rate of absorbency, and how these factors should be manipulated to obtain the recited absorbency values. For example, we discuss the importance of disassociation constants and note that polymers or materials having pK_a or pK_b values outside recited ranges will not exhibit the desired relatively slow absorbency rates. Palumbo discloses no such analysis regarding absorbency rates or choosing specific disassociation constants to obtain relatively slow absorbency rates. Palumbo is directed solely to reducing the "salt-poisoning" effect (a phenomena which we also identify). Because anticipation requires that Palumbo disclose each and every element disclosed in our claims—and nowhere does Palumbo disclose our recited absorbency properties or pK values—we respectfully request that the Examiner's anticipation rejection be reversed.

Issues Presented: Number 2-Obviousness.

Claims 1, 2, 4-16, and 33 recite values for Time to Reach 60 Percent of Free Swell Capacity and Time to Reach 60 Percent of Absorbency Under Load Capacity. The cited publication makes no mention of these values, or other values relating to a relatively slow *rate* of absorbency. And it would not have been obvious to a person reading Palumbo to deliberately seek to achieve a relatively slow absorbency rate. As noted in our application, manufacturers generally seek high absorbency capacities and high absorbency rates. Our emphasis on a relatively slow rate of absorbency is counterintuitive and would generally not be sought by a person of ordinary skill in the art.

Accordingly, a person of ordinary skill, reading Palumbo would not seek to combine materials having recited disassociation constants in order to slow down the rate of absorbency to achieve our recited ranges for specified absorbency properties. We respectfully request that the Examiner's obviousness rejection be reversed.

Appendix – The Claims On Appeal

The claims on appeal are:

1. An absorbent composition comprising a mixture of:

a) an acidic water-swellable, water-insoluble polymer having a pKa between about 2 and about 12 wherein the acidic water-swellable, water-insoluble polymer comprises acidic functional groups and has at least about 50 molar percent of the acidic functional groups in free acid form; and

b) a basic material;

wherein the absorbent composition exhibits a Free Swell value that is at least about 15 grams per gram of absorbent composition and a Time to Reach 60 Percent of Free Swell Capacity value of at least about 5 minutes and wherein the mixture is not a molecular level dispersion of the acidic water-swellable, water-insoluble polymer and the basic material.

2. The absorbent composition of Claim 1 wherein the acidic water-swellable, water-insoluble polymer has a pKa between about 2 and 10.

4. The absorbent composition of Claim 3 wherein the acidic water-swellable, water-insoluble polymer has at least about 70 molar percent of the acidic functional groups in free acid form.

5. The absorbent composition of Claim 1 wherein the acidic water-swellable, water-insoluble polymer has a weight average molecular weight greater than about 100,000.

6. The absorbent composition of Claim 5 wherein the acidic water-swellable, water-insoluble polymer has a weight average molecular weight greater than about 200,000.

7. The absorbent composition of Claim 1 wherein the acidic water-swellable, water-insoluble polymer is prepared from a base polymer selected from the group consisting of polyacrylamides, polyvinyl alcohols, ethylene maleic anhydride copolymer, polyvinylethers, polyacrylic acids, polyvinylpyrrolidones, polyvinylmorpholines, carboxymethyl celluloses, carboxymethyl starches, hydroxypropyl celluloses, algins, alginates, carrageenans, acrylic grafted starches, acrylic grafted celluloses, polyaspartic acid, polyglutamic acid, and copolymers comprising at least two of the preceding polymers.

8. The absorbent composition of Claim 1 wherein the basic material is selected from the group consisting of polyamines, polyimines, polyamides, polyquaternary ammoniums, chitins, chitosans, polyasparagins, polyglutamines, polylysines, polyarginines, organic salts, aliphatic amines, aromatic amines, imines, amides, metallic oxides, hydroxides, salts, and mixtures thereof.

9. The absorbent composition of Claim 8 wherein the basic material is a water-swellable, water-insoluble polymer.

10. The absorbent composition of Claim 9 wherein the water-swellable, water-insoluble polymer basic

material has a pK_b between about 2 and 12.

11. The absorbent composition of Claim 1 wherein the acidic water-swellable, water-insoluble polymer and the basic material are present in the absorbent composition in a molar ratio between about 10:1 and 1:10.
 12. The absorbent composition of Claim 1 wherein the absorbent composition has a Free Swell value of at least about 20.
 13. The absorbent composition of Claim 1 wherein the absorbent composition has a Time to Reach 60 Percent of Free Swell Capacity value of between about 10 minutes and 200 minutes.
 14. The absorbent composition of Claim 1 wherein the absorbent composition has an Absorbency Under Load value of at least about 15.
 15. The absorbent composition of Claim 1 wherein the absorbent composition has a Time to Reach 60 Percent of Absorbency Under Load Capacity value of at least about 5 minutes.
 16. The absorbent composition of Claim 1 wherein the water-swellable, water-insoluble polymer comprises acidic functional groups and has at least about 50 molar percent of the acidic functional groups in free acid form, has a weight average molecular weight greater than about 100,000, and the acidic water-swellable, water-insoluble polymer and the basic material are present in the absorbent composition in a molar ratio between about 10:1 and 1:10.
33. A disposable absorbent product comprising a liquid-permeable topsheet, a backsheet attached to the topsheet, and an absorbent structure positioned between the topsheet and the backsheet wherein the absorbent structure comprises an absorbent composition comprising:
- a) an acidic water-swellable, water-insoluble polymer having a pK_a between about 2 and about 12 wherein the acidic water-swellable, water-insoluble polymer comprises acidic functional groups and has at least about 50 molar percent of the acidic functional groups in free acid form; and
 - b) a basic material;
- wherein the absorbent composition exhibits a Free Swell value that is at least about 15 grams per gram of absorbent composition and a Time to Reach 60 Percent of Free Swell Capacity value of at least about 5 minutes and wherein the absorbent composition is not a molecular level dispersion of the acidic water-swellable, water-insoluble polymer and the basic material.

Conclusion

For the reasons stated above it is Appellants' position that the Examiner's rejection of claims has been shown to be untenable and should be **reversed** by the Board.

Please charge the \$310.00 fee, pursuant to 37 C.F.R. 1.17(c), for filing this Appeal Brief to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875. Any additional prosecutorial fees which are due may also be charged to deposit account number 11-0875.

The undersigned may be reached at: (920) 721-2747

Respectfully submitted,

JIAN QIN ET AL.

By: Sebastian C. Pugliese III

Sebastian C. Pugliese III

Registration No.: 42,091

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